

Progressing cavity pumps

Very gentle pumping of thin and viscous media and thus cover a very wide range of applications



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Maschinenbau GmbH

www.pumpen-schneider.de



Progressing cavity pump type FU

Drive via motor, frequency-controlled

Progressive cavity pump driven by a frequency-controlled motor. With the mounted frequency converter (FC) in protection class IP 55, the speed and thus the flow rate of the pump can be precisely adjusted via a rotary switch (potentiometer).

This increases the service life of the pump and ensures very gentle handling of the pumped material. It is also possible to control the progressive cavity pump via a radio remote control or APP using a smartphone.

Area of application:

Wherever particularly gentle pumping is required and precise adjustment of the flow rate over the entire speed range is necessary. The frequency inverter also offers the option of controlling the pump via connected sensors, e.g. fill level, pressure, temperature, etc.

Flow rate Q:

500–50000 l/h

Pump type	Size	RpM	Q (l/h)
AT 50 FU	1–6 L	140–1430	500–5300
AT 100 FU	2–6 L	143–1429	1000–10000
AT 150 FU	5–6 L	150–1000	1500–15000
AT 200 FU	10–6 L	100–714	2000–20000
AT 250 FU	17–6 L	75–420	4000–25000
AT 350 FU	17–6 L	70–550	4000–35000
AT 500 FU	35–6 L	90–500	9000–50000



Progressing cavity pump type G

Drive via spur gear

Eccentric worm-drive pump driven by a pole-changing three-phase motor with 2 speeds and additionally driven by a spur gear.

By reducing the speed of the pump, wear on the rotor and stator is reduced and gentle handling of the pumped material is facilitated.

Area of application:

Wherever gentle pumping of viscous media at the first speed level and pumping of larger quantities of low-viscosity media at the second speed level is required.

Flow rate Q:

7500–50000 l/h

Pump type	Size	RpM	Q (l/h)
AT 150 G	5–6 L	460/920	7500/15000
AT 200 G	10–6 L	362/734	11000/22000
AT 300 G	17–6 L	250/500	14000/28000
AT 370 G	17–6 L	332/660	18000/37000
AT 400 G	35–6 L	200/400	20000/40000
AT 500 G	35–6 L	250/500	25000/50000



Progressing cavity pump type M

Direct motor drive

An inexpensive and robust progressing cavity pump driven directly by a pole-changing three-phase motor with 2 speeds.

Area of application:

Conveying of viscous media at the first speed level and conveying of low-viscosity media at the second speed level.

Flow rate Q:

3000–10000 l/h

Pump type	Size	RpM	Q (l/h)
AT 50 M	1–6 L	700/1400	3000/5300
AT 100 M	2–6 L	700/1400	5000/10000

Progressing cavity pump type P

Drive via adjustable gearbox

Progressive cavity pump driven by an infinitely variable gearbox. The speed and therefore the flow rate of the pump can be precisely controlled via a handwheel.

This increases the service life of the pump and ensures very gentle handling of the pumped material.

By using a differential planetary gear, the flow rate can be reduced to almost “zero”.

Area of application:

Wherever particularly gentle conveying is required and precise adjustment of the delivery rate over the entire speed range is necessary.

Flow rate Q:

7500–50000 l/h

Pump type	Size	RpM	Q (l/h)
AT 150 G	5–6 L	460/920	7500/15000
AT 200 G	10–6 L	362/734	11000/22000
AT 300 G	17–6 L	250/500	14000/28000
AT 370 G	17–6 L	332/660	18000/37000
AT 400 G	35–6 L	200/400	20000/40000
AT 500 G	35–6 L	250/500	25000/50000

Pump control at a glance

— Vario App

Automate your wine cellar almost completely!

The Vario app provides an overview of all relevant data at all times:

- Feedback on all pumps at any time
- Simple, central control of all pumps
- Greater transparency and control via the real-time logbook
- Greater pump security thanks to password protection against unauthorized access by third parties
- Universal use of pumps from other manufacturers (% display of delivery rate)
- Control via W-LAN — can be expanded as required



Accessories for pumps with frequency inverter



Electronic pressure gauge

Application range: -1–16 bar

- Protection class IP67
- Easy to operate
- Stainless steel housing V4A = AISI 316 L
- Ceramic diaphragm, insensitive to pressure surges
- Sterile design



Hand-held transmitter for frequency inverters with radio remote control

- Protection class IP66
- Shock resistant



Dry-running protection

- Protection class IP65
- Stainless steel housing



Hand-held transmitter for frequency inverters with Vario APP

- Protection class IP68
- Control via touchscreen and keypad
- Shockproof
- Flashlight
- 2500 mAh battery

User benefits 6L geometry

The idea

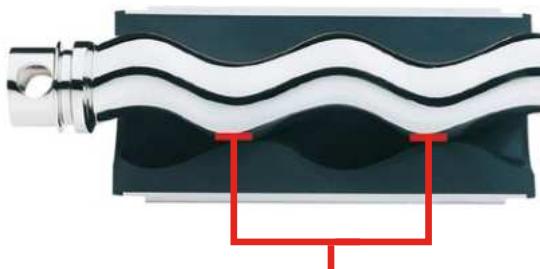
All considerations were based on optimizing the service life of progressive cavity pumps and a service-friendly design. The 6L geometry achieves significant advantages: “Slimmer rotor + longer sealing line = significantly less wear with improved efficiency.”

The comparison

Increased service life due to lower sliding speeds and longer sealing line



Sealing line 6L geometry

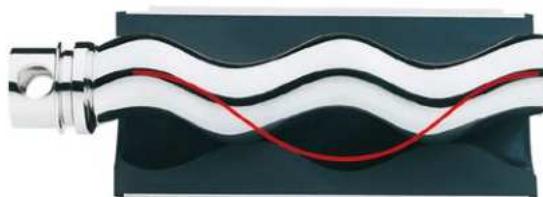


Sealing line conventional geometry

Smooth, low-pulsation flow pattern



6L geometry



Conventional geometry

Extended service life

At the same pump speed, the smaller rotor diameter of the 6L geometry results in sliding speeds that are approx. 20 % lower than those of the conventional geometry. This significantly extends the service life of the rotor and stator pumping elements.

Stability in pressure and flow rate

The slimmer, elongated sealing line means that the pressure and flow rate can be kept constant over a longer period of time, even as wear progresses.

Flow pattern improved

The elongated shape of the rotor and stator and the resulting reduced circulation radius result in an even smoother flow pattern, which has a positive effect on turbulence, pulsation and vibration.

Our standard for progressive cavity pumps

- Pump housing 1.4301
- VA chassis/VA base frame
- Mechanical seal material SIC/SIC
- Motor protection reversing switch

The joint design

Our articulated joint consists of just five components that are easy to assemble. Power is transmitted by robust and proven pin joints.



Joint sealing

- a Sleeve
- b Large retaining strap
- c Small retaining strap

Components

- 1 Coupling rod bushing
- 2 Joint sleeve
- 3 Kuppelstangenbolzen
- 4 Coupling rod pin
- 5 Guide bushing

Bolt joint with joint seal fully assembled



Optimum NPSH value

Our pump is equipped with two joints to enable the eccentric movement of the rotor and to transmit the rotary motion from the stub shaft to the rotor by means of the coupling rod. The shape of the joint is optimized in terms of fluid dynamics so that a low NPSH value is achieved by avoiding turbulence in the suction casing.

Low-wear components

The joint consists of wear-resistant, hardened and replaceable joint parts, a coupling rod bush, a coupling rod pin and two guide bushes. The joint is fixed to the rotor, stub shaft or drive shaft head by a joint sleeve.

Key components are interchangeable

The coupling rod bushing pressed into the coupling rod is spherical at the end face and similar to a slotted hole on the inside, so that the rotor can perform its eccentric motion sequence. The joint standard is characterized by the general use of interchangeable coupling rods and guide bushes.

Elastic full seal

The complete joint, filled with a special grease, is sealed with an elastic sleeve. The sleeve is attached to the rotor, stub shaft or drive shaft head and to the coupling rod by means of retaining straps.

Liquid-tight design

The joint is thus optimally protected against the ingress of the usually abrasive pumped product. This gas and liquid-tight design has proven to be particularly effective in continuous operation. Such a good seal cannot be achieved, for example, when using a dynamically stressed O-ring on the coupling rod.

Sleeve protection

To protect the sleeve from mechanical damage caused by oversized solids such as plastic, wood and metal parts, Schneider offers a steel sleeve protector.

Schneider Maschinenbau GmbH specializes in the development, production and sale of food pumps and agitators. We became known for our impeller pumps, a robust and versatile pump that is highly regarded by winegrowers and can be found in all winegrowing regions in Europe.

In addition to the food industry, our products are also used in the chemical and pharmaceutical industries. We attach great importance to the quality of our products, short delivery times and individual customer requirements. Modern production and in-house design guarantee a high standard of quality.

Our Products

Impeller pumps / Progressing cavity pumps / Agitators / Flotation systems Flow meters / Steam generators / Control system: Pressure control, dry-running protection, frequency inverter, app / Pressure control for progressing cavity pumps for feeding chamber filter presses Vario Control



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